

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of:)	
)	
Satellite Delivery of Network Signals)	
to Unserved Households for)	CS Docket No. 98-201
Purposes of the Satellite Home)	
Viewer Act)	
)	
Part 73 Definition and Measurement)	
of Signals of Grade B Intensity)	

ORDER ON RECONSIDERATION

Adopted: October 5, 1999

Released: October 7, 1999

By the Commission:

I. INTRODUCTION

1. In this *Order on Reconsideration*, we consider petitions filed by two satellite carriers, DIRECTV and EchoStar,¹ for reconsideration of the Commission's February 1, 1999 *Report and Order*² concerning the 1988 Satellite Home Viewer Act (SHVA).³ That *Order* addressed an issue involving the television broadcast industry, the direct-to-home satellite industry, and consumers who subscribe to satellite services for their broadcast network television programming.

2. Broadly stated, the issue is whether and where home satellite carriers may retransmit television broadcast network signals under the SHVA. Federal copyright law, which the SHVA is a part of, contains a copyright compulsory license authorizing the carriage of certain network broadcast signals by home satellite carriers.⁴ The compulsory license is limited, however, because it

¹Petition for Reconsideration filed by DIRECTV, Inc. on March 15, 1999 ("*DIRECTV Petition*") and Petition for Reconsideration and/or Clarification filed March 15, 1999 by EchoStar Communications Corporation ("*EchoStar Petition*"). Public notice of the filing of these petitions was given on March 25, 1999. Federal Communications Commission Public Notice, Report No. 2323 (March 25, 1999).

²*Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act Part 73 Definition and Measurement of Signals of Grade B Intensity, Report and Order* ("*SHVA Report and Order*" or "*Order*"), CS Dkt. No. 98-201, FCC 99-14 (rel. Feb. 2, 1999).

³17 U.S.C. § 119 (1998).

⁴17 U.S.C. § 119(a)(2)(A).

does not permit satellite carriers to retransmit a particular network's signal to a subscriber unless the subscriber is "unserved" by the local affiliate of the network.⁵ "Unserved" is defined in the SHVA as a household that cannot receive an adequate television signal (defined as a signal of "Grade B" intensity) using a conventional outdoor rooftop antenna.⁶ Several judicial proceedings involving the SHVA have resulted in findings that some satellite carriers have violated that statute and have highlighted the significant disputes between broadcast networks and satellite carriers over which consumers are eligible to receive satellite-delivered network programming.⁷

3. The *SHVA Report and Order* sought to help the consumers caught in these disputes by refining two tools to more accurately determine whether a household is truly unserved. The first tool is an on-site (or at-home) signal measurement test to determine the strength of a television signal at a consumer's household. The second tool is a computer-generated prediction model that might obviate the need for large numbers of on-site tests and that could be used by consumers when first signing up for satellite service (at the "point of sale"). This Individual Location Longley-Rice ("ILLR") model is a variation of the core Longley-Rice model that the Commission has long used to determine signal propagation. The ILLR is specifically designed to predict the strength of a television signal at an individual location, such as a consumer's home, by considering what happens to the signal as it travels from the transmitter to the home. The model accounts for the effects that signal interference and terrain have on signal strength. We concluded that other factors, specifically

⁵17 U.S.C. § 119(a)(2)(B).

⁶17 U.S.C. § 119(d)(10). The Grade B values (which represent the required field strength in dB above one micro-volt per meter) are defined for each over-the-air television channel in the Commission's rules. There are also Grade A and "city grade" field strength values, which represent stronger signals. See 47 C.F.R. §§ 73.683 and 73.685.

Grade B Grade A City Grade

Channels 2-6	47 dBu	68 dBu	74 dBu
Channels 7-13	56 dBu	71 dBu	77 dBu
Channels 14-69	64 dBu	74 dBu	80 dBu

⁷The most far-reaching lawsuit between satellite carriers and broadcasters over the unserved households definition is in the United States District Court for the Southern District of Florida. *CBS, Inc. et al. v. PrimeTime 24 Joint Venture*, Order Affirming in Part and Reversing in Part Magistrate Judge Johnson's Report and Recommendations, 9 F.Supp.2d 1333 (S.D. FL., May 13, 1998) ("CBS v. PrimeTime 24, Order"); *CBS, Inc. et al. v. PrimeTime 24 Joint Venture*, Supplemental Order Granting Plaintiffs' Motion for Preliminary Injunction, Case No. 96-3650-CIV (S.D. FL., July 10, 1998) ("CBS v. PrimeTime 24, Supplemental Order"); *CBS, Inc. et al. v. PrimeTime 24 Joint Venture*, Findings of Fact and Conclusions of Law, Case No. 96-3650-CIV-NESBITT (S.D. FL., December 23, 1998) ("CBS v. PrimeTime 24, Final Ruling"); *CBS, Inc. et al. v. PrimeTime 24 Joint Venture*, Final Judgment and Permanent Injunction, Case No. 96-3650-CIV-NESBITT (S.D. FL., December 30, 1998) ("CBS v. PrimeTime 24, Permanent Injunction").

In a similar lawsuit, a Raleigh, North Carolina, federal district court ruled against one satellite network provider and in favor of a local ABC affiliate. *ABC, Inc. v. PrimeTime 24, Joint Venture*, 17 F.Supp.2d 467 (M.D. N.C., July 16, 1998) ("ABC v. PrimeTime 24, Court Opinion").

vegetation and buildings, can also affect the strength of television signals received at a home. However, the rulemaking record did not contain information sufficient for us to identify, endorse, or develop a way to apply these land use and land cover ("LULC") factors in an application that would be "accepted by the technical and scientific community."⁸ We noted that LULC data are available from the United States Geological Survey ("USGS") and asked interested parties to develop an application for incorporating that data into the ILLR.⁹

4. DIRECTV and EchoStar have separately petitioned the Commission to reconsider parts of the *Order* regarding the eligibility of satellite subscribers to receive broadcast network signals through home satellite dishes. The National Association of Broadcasters ("NAB"), Entravision Holdings, and affiliates of ABC, NBC, CBS, and Fox (the "Affiliates") have opposed the petitions. The National Rural Telecommunications Cooperative ("NRTC") has expressed its support for the petitions.

5. Our response to the petitions are governed by the Communications Act and our own rules.¹⁰ Reconsideration of a Commission decision is warranted only if the petitioner cites a material error of fact or law or presents additional facts and circumstances which raise substantial or material questions of fact that were not considered and that otherwise warrant Commission review of its prior action.¹¹ The Commission will not reconsider arguments that have already been considered.¹² For

⁸ See *SHVA Report and Order* at ¶¶ 82-83.

⁹ *Id.* at ¶ 83.

¹⁰ Petitions for reconsideration of Commission decisions are provided for by Section 405(a) of the Communications Act of 1934, 47 U.S.C. § 405(a). Petitions for reconsideration in a rulemaking proceeding are governed by Section 1.429 of the Commission's rules, 47 C.F.R. § 1.429.

¹¹ See, e.g., *800 Data Base Access Tariffs and the 800 Service Management System Tariff and Provision of 800 Services*, 12 FCC Rcd. 5188, at n. 84 (1997); *Amendment of Section 73.202(B), Table of Allotments, FM Broadcast Stations*, 10 FCC Rcd. 7727 (1995) (citing *Eagle Broadcasting Co. v. FCC*, 514 F.2d 852 (D.C. Cir. 1975)); see also *Amendment of Part 97 of the Commission's Rules Concerning the Establishment of a Codeless Class of Amateur Operator License*, 7 FCC Rcd. 1753 (1992) ("petitions for reconsideration must show changed facts or circumstances, or facts that were unknown to the petitioner until after the petitioner's last opportunity to present them to [the Commission]"). In *Southwestern Bell Telephone Company v. FCC*, 1999 WL 420444 (D.C. Cir.) and *Beehive Telephone Company Inc. v. FCC*, 1999 WL 420441 (D.C. Cir.), the D.C. Circuit recently upheld two Commission orders denying petitions for reconsideration. The court found nonreviewable "the agency's refusal to go back over ploughed ground." *Southwestern Bell*, slip op. at 4 (quoting *JCC v. Brotherhood of Locomotive Engineers*, 482 U.S. 270, 282-84 (1987)).

¹² See, e.g., *Elimination of Telephone Company-Cable Cross Ownership Rules, Sections 63.54-63.56, for Rural Areas*, 91 FCC 2d 622 (1982) ("The major arguments raised by the petitioners here were raised and considered by the Commission in response to the NPRM in this proceeding. The petitioners have raised no new arguments now which warrant reversal of our decision."); and *Amendment of Section 73.636(a) of the Commission's Rules (Multiple Ownership of Television Stations)*, 82 FCC 2d 329

the reasons stated herein, we affirm our decisions in the *SHVA Report and Order* and deny DIRECTV's *Petition*. We deny in part and grant in part EchoStar's *Petition*.

II. THE PETITIONS FOR RECONSIDERATION

A. DIRECTV's Petition

6. DIRECTV's *Petition* asks the Commission to allow satellite carriers to include the effects of land use and land cover in the ILLR prediction model now.¹³ The *Petition* contends that there are "a variety of scientifically accepted means" of including USGS data into the model using commercially available mapping software and emphasizes that DIRECTV itself is developing software.¹⁴ However, DIRECTV does not identify these means in any detail. In an accompanying statement, DIRECTV's expert states that the military targets cruise missiles using "a comparison of data available through the Global Positioning System ('GPS') and USGS LULC data," but does not specifically identify the procedure used by the military, nor does it identify any other procedure or software application.¹⁵ DIRECTV's *Reply* offers some information on the specific LULC application it supports, but still does not offer the application itself.¹⁶ According to DIRECTV, their engineering consultants are actively in the process of developing an LULC loss algorithm implementation that can be "readily achieved using the USGS database."¹⁷

7. Broadcasting interests, led by the NAB and the Affiliates, oppose the *Petition* and argue that DIRECTV is trying unilaterally to create and use an LULC application in direct contravention of the Commission's *Order*.¹⁸ ABC, CBS, and Fox affiliates go one step further by

(1980).

¹³ *DIRECTV Petition* at 2-3, 5.

¹⁴ *Id.*

¹⁵ *DIRECTV Petition*, Declaration of Robert H. Plummer, at 2. DIRECTV also notes the use of the USGS 3 Second Topographical Geocoding data for geocoding. *Id.*

¹⁶ Reply of DIRECTV, Inc. (April 26, 1999) (" *DIRECTV Reply*").

¹⁷ *Id.* at 3-4; see also *DIRECTV Reply*, Exhibit 1, "Engineering Statement."

¹⁸ Opposition to EchoStar and DIRECTV Petitions for Reconsideration by the National Assn of Broadcasters (April 19, 1999) (" *NAB*").

stating that overlaying LULC data in the ILLR would amount to "double-counting" the effects of trees and buildings.¹⁹ They contend that the core Longley-Rice programming language (on which the ILLR is based) already incorporates some LULC data into its calculations. The Affiliates also question using the USGS database, asserting that it covers too much land per grid area (200 meters) to be accurate for the purposes here involved. Both the NAB and the Affiliates emphasize that DIRECTV has not offered a specific software package for applying LULC data to the predictive model.²⁰ When it does, the NAB asserts that it would support an expedited review by the Commission.²¹ On the other hand, the NRTC supports DIRECTV's *Petition* and asks the Commission for "practical rules and recommendations ... to use in determining a household's eligibility to receive distant network signals by satellite."²²

8. We believe that consumers will benefit when the effects of trees and buildings on a television signal are included in the ILLR prediction model. We stated in the *SHVA Report and Order*:

While we expect the model to include land use and land cover, we are not aware of a standard means of including such information in the ILLR that has been accepted by the technical and scientific community. When an appropriate application has been developed and accepted, this information will be included in the ILLR.²³

We specifically invited interested parties to develop such an application. Before such an application can be used, however, it is necessary that some consensus be developed as to the specifics of the technique involved so that the process is generally understood, the results can be replicated by all who would use the process, and any disputes as to accuracy of the technique can be addressed. Neither DIRECTV, nor any other party, may unilaterally incorporate LULC data into the Commission's ILLR until an application has been publicly reviewed. We again encourage any

Opposition'; **Opposition to Petitions for Reconsideration and/or Clarification by ABC Television Affiliates Assn, CBS Television Affiliates Assn, and Fox Television Affiliates Assn (April 19, 1999) ("Affiliates Opposition").**

¹⁹ ***Affiliates Opposition*** at 5-7.

²⁰ ***NAB Opposition*** at 3; ***Affiliates Opposition*** at 6-7.

²¹ ***NAB Opposition*** at 2.

²² **Comments of the National Rural Telecommunications Cooperative in Support of Petitions for Reconsideration of DIRECTV, Inc. and EchoStar Communications Corp. at 2 (April 16, 1999) ("NRTC Comments"); see also Reply of the National Rural Telecommunications Cooperative to Oppositions to Petitions for Reconsideration at 4-5 ("NRTC Reply") (April 26, 1999).**

²³ ***SHVA Report and Order*** at ¶ 83.

interested party to develop an application and offer it for comment. Because DIRECTV has not fully offered the details of its application, such review is not possible here. We therefore deny DIRECTV's *Petition for Reconsideration*.

B.EchoStar's Petition

9. EchoStar, in its *Petition*, first argues that the Commission could have and should have adopted a new definition of Grade B intensity specifically for SHVA purposes.²⁴ The *Petition*, however, does not propose a new definition or standard. Second, EchoStar argues that the Commission should consider the effects of "ghosting" in a television picture, caused by signal "multipathing," when determining who is unserved. Third, EchoStar takes issue with several elements of the Commission's new on-site testing methodology, including (a) whether measurements should be taken at a house's roof or at the television set, (b) the orientation of the testing antenna, (c) the type of testing antenna that should be used, and (d) the number and location of the tests. Finally, EchoStar asks the Commission to raise the confidence factor in the predictive model from 50% to 90%, arguing that the latter is more consumer-friendly and, therefore, consistent with the SHVA's purposes.

10. *Changing the Grade B definition.* In the *Order*, we concluded that the record provided an inadequate basis for changing the Grade B signal intensity values either generally or for purposes of the SHVA specifically, and therefore, declined to change the definition of Grade B signal intensity.²⁵ EchoStar disagrees with these conclusions, but presents no new arguments or facts that warrant revisiting this issue.²⁶ We stand by our conclusions and deny EchoStar's petition on this issue.

11. *Signal Multipathing.* EchoStar contends that we did not specifically take account of the effects of multipathing in the *Order* and asks us to do so now. Multipathing is the reflection of a single television signal off of buildings or other objects. It causes several transmissions of the same signal to arrive at a television at slightly different times, leading to "ghosting" on the screen (one fainter "ghost" picture superimposed on the main picture). Importantly, multipathing can affect picture quality on a consumer's television set even when a Grade B signal exists at the consumer's rooftop. EchoStar asks the Commission to institute proceedings to account for the effects of multipathing. The NRTC supports EchoStar's position, arguing that "consumers want and deserve the best quality television picture available, and if ghosting or other environmental factors degrade picture quality ... the Commission should recognize and incorporate these factors in the predictive

²⁴ *EchoStar Petition* at 2-6.

²⁵ *SHVA Report and Order* at ¶¶ 42-44.

²⁶ *See* ¶ 5.

model and testing methodology."²⁷ The NAB and the Affiliates reject the satellite carriers' position, noting that the SHVA speaks of Grade B intensity, an objective standard for determining who is unserved, rather than a subjective picture quality standard that would be very difficult to enforce and implement.²⁸ Therefore, the broadcasters claim that the Commission "unquestionably lacks authority to alter the SHVA eligibility standard to deal with ghosting."²⁹ EchoStar replies that ghosting is not so subjective that it is impossible to determine: "Ghosting either exists or it does not, it is objectively ascertainable."³⁰

12. We addressed multipathing in the *Order* on several occasions³¹ and, as with the Grade B definition issue, EchoStar has not offered any additional facts or new arguments that warrant a change in our conclusions. We recognize that ghosting is a problem that affects television pictures but note, as we did in the *Order*, that there is no simple solution.³² For example, raising the Grade B values to give a consumer a stronger television signal could actually exacerbate the problem of multipathing. As the signal strength increases, "noise" or "snow" in a television picture may be reduced, but the chance of ghosting increases. Moreover, the multipath "interference" created by the same signal is very difficult to measure objectively.

13. While we welcome concrete solutions to the ghosting problem, any solution must be objective and verifiable. EchoStar has not offered any new facts or arguments that describe how to predict or measure multipathing or even permit it to be taken into account under the current language in the SHVA. We must therefore deny its petition on this issue.

14. *On-site Tests.* EchoStar believes the Commission's on-site measurement test is too complicated and costs too much (estimates are \$99 to \$119 per on-site test for four networks).³³ In

²⁷ *NRTC Reply* at 8-9.

²⁸ *NAB Opposition* at 7-8 (emphasis in original).

²⁹ *Id.*

³⁰ Reply of EchoStar Communications Corp. at 5 (April 26, 1999) ("*EchoStar Reply*").

³¹ *SHVA Report and Order* at fn 101 and ¶ 95.

³² *Id.* See Walter Ciciora, Gary Sgrignoli, William Thomas, "A Tutorial on Ghost Cancelling in Television Systems," IEEE Transactions on Consumer Electronics, Vol. CE-25, pp. 10-11 (February 1979) ("The perceptibility of ghosts is strongly subjective and a function of picture content and quality").

³³ *EchoStar Petition* at 10.

its comments to the petition, the NRTC agreed.³⁴ EchoStar also suggests that the SHVA does not require signal measurements at a house's rooftop and that any such conclusion is merely "a legal fallacy, propagated by the broadcasters."³⁵ Instead, EchoStar argues that signal strength should be measured at the television set. Alternatively, EchoStar suggests changing several requirements mandated for the outdoor, on-site tests: (1) eliminate the requirement that the testing antenna be oriented separately for each station being measured; (2) require fewer testing locations and measurements (for each station, replace 1 test at 5 locations with 3 tests at 1 location); (3) allow parties to choose the type of testing antenna, either a half-wave dipole (as the *SHVA Report and Order* required) or gain antenna; (4) clarify that the half-wave dipole required for testing in the Order can be of *fixed* length.³⁶ The NAB rejects EchoStar's suggestions, except that it does admit that a properly calibrated gain antenna could be used to conduct signal intensity measurements.³⁷ In a "Revised Engineering Statement," however, the NAB adds that a simple gain antenna is not sufficient and recommends that the Commission specify and endorse particular brands and models of antenna.³⁸ The Affiliates state that EchoStar's suggestions, as a group, would reduce accuracy with very little cost savings and assert that the Commission gave full and detailed attention to the creation of the new measurement methodology.³⁹ In its *Reply*, EchoStar counters that any additional inaccuracies created by a less complex test would fall equally on broadcasters and satellite carriers.⁴⁰

15. When we created the on-site test, we were faced with balancing the cost of the test with the accuracy and objectivity that would result. In the end, we considered many different issues, all of which are thoroughly discussed in the *Order*.⁴¹ We reiterate our intent that the test should be

³⁴ *NRTC Reply* at 7.

³⁵ *EchoStar Petition* at 11.

³⁶ *EchoStar Petition* at 11-14.

³⁷ *NAB Opposition* at 9-10.

³⁸ Revised Engineering Statement on Behalf of National Assn of Broadcasters at 3-4 (April 26, 1999). In the interest of accurate pleadings and informed decision making, we will grant the NAB's motion to file this revised statement. Specifically, NAB's engineering expert, Jules Cohen, recommends that "antennas with a relatively large number of elements are more likely to have a more consistent input impedance than the simpler types." He further notes that the Channel Master Model 3016 is such an antenna and adds that similar antennas would be suitable "if channel-by-channel gain figures are provided and certified by the manufacturer together with the antenna's input impedance characteristics." *Id.* at 4.

³⁹ *Affiliates Opposition* at 3-4.

⁴⁰ *EchoStar Reply* at 7.

⁴¹ See *SHVA Report and Order* at ¶¶ 45-60.

relatively inexpensive, simple enough so that an average antenna installer can conduct it, and objective enough so that the test results will not constantly fall in doubt. EchoStar has offered neither new evidence nor new arguments with respect to orientation of the test antenna and the number of test measurements. EchoStar provides new information in its request that the rule permit testers to use either a half-wave dipole or an antenna with gain to conduct the tests. In the rulemaking, broadcasters also supported the use of a gain antenna, albeit with the recent qualification that the test antenna should have multiple elements to ensure proper calibration.⁴² Because a gain antenna is able to accurately measure the intensity of a television signal and because it will provide additional flexibility for technicians who conduct tests, we amend the testing rule to allow the use of either a gain antenna with several elements or the half-wave dipole that we originally endorsed.⁴³ In response to the concerns raised by the NAB, the revised rule maintains an impedance match at the antenna at all frequencies. We believe this approach is preferable to endorsing a particular brand or model or requiring use of an expensive test antenna. In addition, we will amend the rule to allow use of signal level test instruments with a bandwidth of 200 kHz through one megahertz (1,000 kHz), rather than requiring a bandwidth of at least 450 kHz.⁴⁴ We believe that this amendment will reduce the cost of the tests by permitting technicians to use test equipment they have on hand and not require them to purchase new equipment.⁴⁵

16. *Confidence Factor.* EchoStar asks us to revisit the confidence factor used in the ILLR prediction methodology, an issue that we addressed more exhaustively than any other in the proceeding that culminated in the *SHVA Report and Order*. EchoStar contends that the Commission's decision to set the ILLR's confidence factor at 50% "penalizes the consumer and errs in favor of some policy of 'belt-and-suspenders' over-protection for the broadcaster's local franchise."⁴⁶ Instead, the satellite carrier asserts that the Commission should set the confidence factor at 90% because consumers' rights to a good television picture, not broadcasters' copyrights, must be "the cornerstone of a predictive model."⁴⁷ To prevent alleged "overprediction" of unserved households, EchoStar proposes a "cap" that would cut off eligibility for distant network satellite

⁴²NAB *ex parte*, January 21, 1999, statements of Jules Cohen, NAB engineering expert.

⁴³See Appendix, amendments to 47 C.F.R. § 73.686(d)(1)(i).

⁴⁴See 47 C.F.R. § 73.686(d)(2)(i).

⁴⁵See *ex parte* electronic message from William Stevens ("CATV Signal Level Meter for measuring field strength . . . is designed for accurate measurement of video carriers, is rugged and portable, and there is an adjustable dipole already available as an accessory" but it cannot be used due to the rule's requirement for a bandwidth of "at least 450 kHz.")

⁴⁶Echostar Petition at 15-16.

⁴⁷*Id.* at 14-18.

service if a household cannot be predicted (with 90% confidence) to receive 70.75 dBu *or less*.⁴⁸ EchoStar essentially suggests a floor and ceiling for determining whether a household is unserved -- the household should receive (a) *at least* a signal of 47 dBu with 90% confidence, and (b) *less than* a signal of 70.75 dBu with 90% confidence.⁴⁹ The NRTC agrees with EchoStar's proposal, stating that the 50% confidence factor penalizes consumers because it is inaccurate.⁵⁰ The NAB rejects the change in confidence factors, stating that EchoStar has merely repeated its arguments from the rulemaking and "has given no reason whatsoever to spend additional time on this issue."⁵¹ The Affiliates argue that the Satellite Broadcasting and Communications Association's endorsement of the TIREM predictive model, an alternative to the Longley-Rice model endorsed by many satellite commenters, included a 50% confidence factor. The Affiliates state that the satellite carriers should therefore be estopped from arguing for a 90% factor.⁵² In its *Reply*, EchoStar asserts that a choice between 50% or 90% is a *policy* choice between consumers and broadcasters, not an engineering or statistical choice.⁵³

17. We decline EchoStar's request to revisit the confidence factor issue. We thoroughly considered and addressed the issues surrounding the confidence factor in the *SHVA Report and Order* and EchoStar has offered no new arguments or facts that warrant a change in our conclusions. Its suggestion that we adopt a floor-and-ceiling approach to determining unserved households is legally untenable. EchoStar's suggested ceiling of 70.75 dBu would change the SHVA's definition of unserved household, which is defined only as a household that does not receive a signal of *at least* Grade B intensity, not as a household that also receives *less than* a signal of some other level.⁵⁴

⁴⁸ *Id.* at 18.

⁴⁹ *EchoStar Petition* at 17-18; *EchoStar Reply* at 8-10; *see also* "Appropriate Statistical Factors for Use in Predicting Signal Strength For Purposes of the Satellite Home Viewer Act," attached to January 26, 1999 *ex parte* letter from Margaret Tobey, counsel for the Satellite Broadcasting & Communications Assn, to Mr. Donnie Fowler and Ms. Eloise Gore of the Commission's Cable Services Bureau.

⁵⁰ *NRTC Reply* at 5-7.

⁵¹ *NAB Opposition* at 10-11.

⁵² *Id.* at 4-5.

⁵³ *EchoStar Reply* at 9-10.

⁵⁴ 17 U.S.C. § 119(d)(10).

18. In any action brought under the SHVA, the burden of proof lies with the satellite carriers to demonstrate that a particular household is unserved.⁵⁵ To be useful in carrying this burden, any prediction system must demonstrate with a sufficient degree of confidence to be acceptable in a judicial proceeding which households are unserved. Conversely, it is not sufficient to demonstrate with confidence which households are served. Because of the statistical factors underlying the prediction system, which have not changed since the *SHVA Report and Order*,⁵⁶ there is a considerable difference between demonstrating with confidence which households are served and which are unserved. EchoStar's suggestions do not advance the goal of more accurately identifying unserved households and its *Petition* with respect to the confidence factor must be denied.

III. SUPPLEMENTAL FINAL REGULATORY FLEXIBILITY ANALYSIS

A. Background

19. As required by the Regulatory Flexibility Act (RFA),⁵⁷ an Initial Regulatory Flexibility Analysis ("IRFA") was incorporated into the *Notice of Proposed Rulemaking* in this proceeding.⁵⁸ The Commission sought written public comment on the expected impact of the proposed policies and rules on small entities in the *Notice*, including comments on the IRFA. The Commission included a Final Regulatory Flexibility Analysis ("FRFA") into the *SHVA Report and Order*.⁵⁹ While no petitioners seeking reconsideration of the *Order* raised issues directly related to the FRFA, the Commission is amending the rules in a manner that may affect small entities, although only in a minor way. Accordingly, this Supplemental Regulatory Flexibility Analysis ("Supplemental FRFA") addresses those amendments and conforms to the RFA.

⁵⁵ 17 U.S.C. § 119(d)(5)(D).

⁵⁶ See *SHVA Report and Order* at ¶¶ 72-78.

⁵⁷ See 5 U.S.C. § 603. The RFA, 5 U.S.C. § 601 *et seq.*, has been amended by the Contract With America Advancement Act of 1996, Pub. L. No. 104-121, 110 Stat. 847 (1996) ["CWAAA"]. Title II of the CWAAA is the Small Business Regulatory Enforcement Fairness Act of 1996 ["SBREFA"].

⁵⁸ *Satellite Delivery of Network Signals to Unserved Households for Purposes of the Satellite Home Viewer Act*, Notice of Proposed Rulemaking, CS Docket No. 98-201, FCC 98-302 (November 17, 1998).

⁵⁹ *SHVA Report and Order* at Appendix A.

B. Need for and Objective of the Rules

20. In both the *SHVA Report and Order* and this *Order on Reconsideration*, the Commission has addressed methods for determining whether a household is "unserved" by network television stations for purposes of the 1988 Satellite Home Viewer Act.⁶⁰ Our goal was to provide relatively simple and inexpensive prediction and testing methodologies to determine the intensity of a television signal at a consumer's household. The changes to the on-site test outlined in the current *Order on Reconsideration* clarifies and simplifies the rule and its implementation and, therefore, serves our objectives.

C. Legal Basis

21.. This *Order on Reconsideration* is authorized under Sections 1, 4(i), 4(j) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 151, 154(i), and 154(j) and Section 119(d)(10)(a) of the Copyright Act, 17 U.S.C. § 119(d)(10)(a).

D.Summary of Significant Issues Regarding FRFA Raised in Petitions for Reconsideration

22. No parties address the FRFA in their petitions for reconsideration, or any subsequent filings. We have, however, addressed, on our own motion, steps taken to further minimize the effect of these requirements on small entities.⁶¹

E. Description and Estimate of the Number of Small Entities To Which the Rules Will Apply

23. The RFA directs the Commission to provide a description of and, where feasible, an estimate of the number of small entities that will be affected by the proposed action.⁶² The RFA defines the term "small entity" as having the same meaning as the terms "small business," "small organization," and "small business concern" under Section 3 of the Small Business Act.⁶³ Under the Small Business Act, a small business concern is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.⁶⁴ The action taken in this Order will affect television broadcasting licensees and DTH satellite operators.

⁶⁰17 U.S.C. § 119.

⁶¹*See* ¶¶ 127-130 *infra*.

⁶²5 U.S.C. § 604(a)(3).

⁶³5 U.S.C. § 604(a)(3).

⁶⁴15 U.S.C. § 632.

24. *Television Stations.* The rule developed in the *SHVA Report and Order* and reconsidered in this *Order on Reconsideration* will apply to television broadcasting licensees, and potential licensees of television service. The SBA defines a television broadcasting station that has no more than \$10.5 million in annual receipts as a small business.⁶⁵ Television broadcasting stations consist of establishments primarily engaged in broadcasting visual programs by television to the public, except cable and other pay television services.⁶⁶ Included in this industry are commercial, religious, educational, and other television stations.⁶⁷ Also included are establishments primarily engaged in television broadcasting and that produce taped television program materials.⁶⁸ Separate establishments primarily engaged in producing taped television program materials are classified under another SIC number.⁶⁹ There were 1,509 television broadcasting stations operating in the nation in 1992.⁷⁰ That number has remained fairly constant as indicated by the approximately 1,579 operating full power television broadcasting stations in the nation as of May 31, 1998.⁷¹ In addition, as of October 31, 1997, there were 1,880 low power television broadcasting ("LPTV") broadcasting stations that may also be affected by our proposed rule changes.⁷² For 1992⁷³ the number of

⁶⁵13 C.F.R. § 121.201, Standard Industrial Code ("SIC") 4833 (1996).

⁶⁶Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce, 1992 CENSUS OF TRANSPORTATION, COMMUNICATIONS AND UTILITIES, ESTABLISHMENT AND FIRM SIZE, Series UC92-S-1, Appendix A-9 (1995) ("1992 CENSUS OF TRANSPORTATION").

⁶⁷*Id.* See also OMB SIC Manual at 283, which describes "Television Broadcasting Stations (SIC Code 4833) as:

Establishments primarily engaged in broadcasting visual programs by television to the public, except cable and other pay television services. Included in this industry are commercial, religious, educational and other television stations. Also included here are establishments primarily engaged in television broadcasting and which produce taped television program materials.

⁶⁸1992 CENSUS OF TRANSPORTATION, Series UC92-S-1, Appendix A-9.

⁶⁹*Id.* SIC 7812 (Motion Picture and Video Tape Production); SIC 7922 (Theatrical Producers and Miscellaneous Theatrical Services (producers of live radio and television programs).

⁷⁰FCC News Release No. 31327, Jan. 13, 1993.

⁷¹See *Broadcast Station Totals As Of May 31, 1998*, FCC News Release, June 19, 1998.

⁷²Given the nature of LPTV stations, we will presume that all LPTV's qualify as small entities.

⁷³Census for Communications' establishments are performed every five years ending with a "2" or "7". See Economics and Statistics Administration, Bureau of Census, U.S. Department of Commerce.

television broadcasting stations that produced less than \$10.0 million in revenue was 1,155 establishments.⁷⁴

25. *DBS and other DTH satellite operators.* The Commission has not developed a definition of small entities applicable to geostationary or non-geostationary orbit fixed-satellite or DBS service applicants or licensees. Therefore, the applicable definition of small entity is the definition under the SBA rules applicable to Communications Services, Not Elsewhere Classified. This definition provides that a small entity is one with \$11.0 million or less in annual receipts.⁷⁵ The number of employees working for a "small entity" must be 750 or fewer. According to Census Bureau data, there are 848 firms that fall under the category of Communications Services, Not Elsewhere Classified that could potentially fall into the DTH category. Of those, approximately 775 reported annual receipts of \$11 million or less and qualify as small entities.⁷⁶ The action in the *SHVA Report and Order* and reconsidered in this *Order on Reconsideration* applies to entities providing DTH service, including licensees of DBS services and distributors of satellite programming. There are four licensees of DBS services under Part 100 of the Commission's rules.⁷⁷ Three of those licensees are currently operational, and each of those licensees has annual revenues in excess of the threshold for a small business.

F.Description of Projected Reporting, Record-keeping, and Other Compliance Requirements

26. We did not prescribe reporting requirements in the original *Order* and do not do so in this *Order on Reconsideration*. As noted in the *Order*, parties who choose to conduct individual household measurements are required to memorialize their test observations and results.

G.Steps Taken to Minimize Significant Economic Impact On Small Entities and Significant Alternatives Considered:

27. In formulating our testing rule in the *Order*, we sought to minimize the effect on small entities while ensuring accurate determinations of signal intensity at individual locations such as households. These efforts are consistent with the Congress' goal of ensuring that "unserved" consumers are able to receive network broadcast signals through a home satellite dish. The actions

⁷⁴The amount of \$10 million was used to estimate the number of small business establishments because the relevant Census categories stopped at \$9,999,999 and began at \$10,000,000. No category for \$10.5 million existed. Thus, the number is as accurate as it is possible to calculate with the available information.

⁷⁵13 C.F.R. § 121.201, SIC Code 4899.

⁷⁶1992 CENSUS OF TRANSPORTATION, Series UC92-S-1, Table 2D, Employment Size of Firms: 1992, SIC Code 4899.

⁷⁷47 C.F.R. 100 *et seq.*

we are taking on reconsideration further refine the rule so as to advance this goal and further minimize unnecessary burdens on small entities.

28. Specifically, in the *Order* we only allowed the use of one type of testing antenna. Here, on reconsideration, we have increased test-takers' flexibility by allowing the use of a second type of antenna.⁷⁸ Additionally, we have amended our rule to allow use of signal level test instruments with a bandwidth of 200 kHz through one megahertz (1,000 kHz), rather than requiring a bandwidth of at least 450 kHz, because we wish to reduce the cost of the test by permitting technicians to use test equipment they have on hand and not require them to purchase new equipment.⁷⁹

H. Report to Congress

29. The Commission will send a copy of the *Order on Reconsideration*, including this Supplemental FRFA, in a report to be sent to Congress pursuant to the Small Business Regulatory Enforcement Fairness Act of 1996, *see* 5 U.S.C. § 801(a)(1)(A). In addition, the Commission will send a copy of the *Order on Reconsideration*, including Supplemental FRFA, to the Chief Counsel for Advocacy of the Small Business Administration. A copy of the *Order on Reconsideration* and Supplemental FRFA (or summaries thereof) will also be published in the Federal Register. *See* 5 U.S.C. § 604(b).

IV. PAPERWORK REDUCTION ACT OF 1995 ANALYSIS

30. This *Order on Reconsideration* has been analyzed with respect to the Paperwork Reduction Act of 1995 and has been found to contain no new or modified information collection requirements on the public.

V. ORDERING CLAUSES

31. *Ordering Clauses.* **IT IS ORDERED**, pursuant to Section 405(a) of the Communications Act of 1934, 47 U.S.C. § 405(a), and Section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, that DIRECTV's Petition for Reconsideration **IS DENIED**.

32. **IT IS FURTHER ORDERED**, pursuant to Section 405(a) of the Communications Act of 1934, 47 U.S.C. § 405(a), and Section 1.429 of the Commission's rules, 47 C.F.R. § 1.429, that EchoStar's Petition for Reconsideration **IS GRANTED IN PART AND DENIED IN PART**.

⁷⁸ *See* ¶ 15.

⁷⁹ *Id.*

33. **IT IS FURTHER ORDERED** that the NAB's Motion for Leave to File Corrected Engineering Statement **IS GRANTED**.

34. **IT IS FURTHER ORDERED** that under authority of Sections 1, 4(i), 4(j) of the Communications Act of 1934, as amended, 47 U.S.C. 151, 154(i), and 154(j), part 73 of Title 47 of the Code of Federal Regulations **IS AMENDED** as indicated in the Appendix.

35. **IT IS FURTHER ORDERED** that the Commission's Office of Public Affairs, Reference Operations Division, **SHALL SEND** a copy of this Order on Reconsideration, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration in accordance with paragraph 603(a) of the Regulatory Flexibility Act, Pub. L. No. 96-354, 94 Stat. 1164, 5 U.S.C. §§ 601 et seq. (1981).

FEDERAL COMMUNICATIONS COMMISSION

Magalie Roman Salas
Secretary

Appendix

PART 73 -- RADIO BROADCAST SERVICES

1. The authority citation for Part 73 continues to read as follows:

AUTHORITY: 47 U.S.C. 154, 303, 334 and 336.

Subpart E -- Television Broadcast Stations

1. Section 73.686(d) is amended and will read as follows (amended language in bold):

§ 73.686(d) Collection of field strength data to determine television signal intensity at an individual location -- cluster measurements.

(1) Preparation for measurements.

- (i) *Testing antenna.* The test antenna shall be **either** a standard half-wave dipole tuned to the visual carrier frequency of the channel being measured **or a gain antenna, provided its antenna factor for the channel(s) under test has been determined. Use the antenna factor supplied by the antenna manufacturer as determined on an antenna range.**
- (ii) *Testing locations.* At the location, choose a minimum of five locations as close as possible to the specific site where the site's receiving antenna is located. If there is no receiving antenna at the site, choose the minimum of five locations as close as possible to a reasonable and likely spot for the antenna. The locations shall be at least three meters apart, enough so that the testing is practical. If possible, the first testing point should be chosen as the center point of a square whose corners are the four other locations. Calculate the median of the five measurements (in units of dBu) and report it as the measurement result.
- ~~(iii)~~ *Multiple Signals.* If more than one signal is being measured (i.e., signals from different transmitters), use the same locations to measure each signal.

- (2) *Measurement Procedure.* Measurements shall be made in accordance with good engineering practice and in accordance with this section of the Rules. At each measuring location, the following procedure shall be employed:

- (i) *Testing Equipment.* Measure the field strength of the visual carrier with a calibrated instrument with an **i.f.** bandwidth of at least ~~450~~ **200** kHz, but no greater than one megahertz (**1,000 kHz**). Perform an on-site calibration of the instrument in accordance with the manufacturer's specifications. The instrument must accurately indicate the peak amplitude of the synchronizing signal. Take all measurements with a horizontally polarized ~~dipole~~ antenna. Use a shielded

transmission line between the testing antenna and the field strength meter. Match the antenna impedance to the transmission line **at all frequencies measured**, and, if using an unbalanced line, employ a suitable balun. Take account of the transmission line loss for each frequency being measured.

- (ii) Weather. Do not take measurements in inclement weather or when major weather fronts are moving through the measurement area.
- (iii) Antenna Elevation. When field strength is being measured for a one-story building, elevate the testing antenna to 6.1 meters (20 feet) above the ground. In situations where the field strength is being measured for a building taller than one-story, elevate the testing antenna 9.1 meters (30 feet) above the ground.
- (iv) Antenna Orientation. Orient the testing antenna in the direction which maximizes the value of field strength for the signal being measured. If more than one station's signal is being measured, orient the testing antenna separately for each station.

(3) Written Record shall be made and shall include at least the following:

- (i) A list of calibrated equipment used in the field strength survey, which for each instrument, specifies the manufacturer, type, serial number and rated accuracy, and the date of the most recent calibration by the manufacturer or by a laboratory. Include complete details of any instrument not of standard manufacture.
- (ii) A detailed description of the calibration of the measuring equipment, including field strength meters, measuring antenna, and connecting cable.
- (iii) For each spot at the measuring site, all factors which may affect the recorded field, such as topography, height and types of vegetation, buildings, obstacles, weather, and other local features.
- (iv) A description of where the cluster measurements were made.
- (v) Time and date of the measurements and signature of the person making the measurements.
- (vi) For each channel being measured, a list of the measured value of field strength (in units of dBu and after adjustment for line loss and antenna factor) of the five readings made during the cluster measurement process, with the median value highlighted.